

Amendments to the Claims

Please amend the claims as detailed below. This listing of claims will replace all prior versions, and listings, of claims in the application:

1-16 (Cancelled)

17. (New) A storage appliance comprising:

a network interface; and

a controller configured

to provide a root partition defining a plurality of characteristics of a redundant array (RA) group that includes a plurality of RA partitions,

to provide a RA partition of the plurality of RA partitions,

to receive, via the network interface, a data access command multicast to the plurality of RA partitions, and

to determine that the data access command pertains to the RA partition based at least in part on the plurality of characteristics.

18. (New) The storage appliance of claim 17, wherein the controller is further configured

to receive, via the network interface, a plurality of partition commands from a host; and

to provide the root partition and the RA partition based at least in part on the plurality of partition commands.

19. (New) The storage appliance of claim 17, wherein the plurality of characteristics includes a multicast set associated with the RA group.

20. (New) The storage appliance of claim 19, wherein the controller is configured to receive a multicast set command from a host via the network interface, and to establish the multicast set associated with the RA group based at least in part on the multicast set command.

21. (New) The storage appliance of claim 17, wherein the data access command is multicast to the plurality of RA partitions using an Internet Protocol address.

22. (New) The storage appliance of claim 17, wherein the controller is further configured

to receive, via the network interface, another data access command multicast to the plurality of RA partitions;

to receive, via the network interface, a response to the another data access command; and

to disregard the another data access command based at least in part on the response.

23. (New) The storage appliance of claim 17, wherein the root partition includes a type of the RA group.

24. (New) The storage appliance of claim 23, wherein the type is a stripe and the root partition further includes a length of the stripe.

25. (New) The storage appliance of claim 17, wherein the root partition includes a parity rule.

26. (New) The storage appliance of claim 17, wherein the plurality of RA partitions are associated with a plurality of logical block addresses (LBAs) and the controller is further configured

to calculate, based at least in part on the plurality of characteristics of the RA group defined in the root partition, which LBAs of the plurality of LBAs are associated with the RA partition.

27. (New) The storage appliance of claim 17, wherein the controller is configured to receive the data access command from a host and the controller is further configured to transmit, via the network interface, data directly to another RA partition of the plurality of RA partitions based at least in part on the data access command.

28. (New) A method comprising:
providing a root partition associated with a redundant array (RA) group that includes a plurality of RA partitions,
providing a RA partition of the plurality of RA partitions,
receiving, via the network interface, one or more commands from a host; and
providing the root partition and the RA partition based at least in part on the received one or more commands.

29. (New) The method of claim 28, further comprising:
receiving, via a network interface, a data access command multicast to the plurality of RA partitions, and
determining that the data access command pertains to the RA partition based at least in part on the plurality of characteristics.

30. (New) The method of claim 29, wherein the plurality of characteristics includes a multicast set associated with the RA group.

31. (New) The method of claim 29, wherein the RA command is multicast to the plurality of RA partitions using an Internet Protocol address.

32. (New) The method of claim 29, further comprising:
receiving, via the network interface, another data access command multicast to the plurality of RA partitions;
receiving, via the network interface, a response to the another data access command; and

disregarding the another data access command based at least in part on the received response.

33. (New) The method of claim 28, wherein the root partition includes a type of the RA group.

34. (New) The method of claim 33, wherein the type is a stripe and the root partition further includes a length of the stripe.

35. (New) The method of claim 28, wherein the root partition includes a parity rule.

36. (New) A machine-accessible storage medium having instructions, which, when executed, results in the machine:

- providing a root partition defining a plurality of characteristics of a redundant array (RA) group that includes a plurality of RA partitions,
- providing a RA partition of the plurality of RA partitions,
- receiving, via a network interface, a data access command multicast to the plurality of RA partitions, and
- determining that the data access command pertains to the RA partition based at least in part on the plurality of characteristics.

37. (New) The machine-accessible storage medium of claim 36, wherein the instructions, when executed, further results in the machine:

- receiving, via the network interface, one or more commands from a host; and
- providing the root partition and the RA partition based at least in part on the received one or more commands.

38. (New) The machine-accessible storage medium of claim 36, wherein the plurality of characteristics includes a multicast set associated with the RA group.

39. (New) The machine-accessible storage medium of claim 36, wherein the data access command is multicast to the plurality of RA partitions using an Internet Protocol address.

40. (New) An apparatus comprising:

a network interface; and

a controller configured

to transmit, via the network interface, a first partition command to establish a root partition on a storage appliance;

to transmit, via the network interface, a plurality of characteristics of a redundant array (RA) group that includes a plurality of RA partitions to be stored in the root partition;

to transmit, via the network interface, a second partition command to establish a RA partition of the plurality of RA partitions, on the storage appliance.

41. (New) The apparatus of claim 40, wherein the controller is further configured to transmit a partition command to each of a plurality of storage appliances to establish the plurality of RA partitions.

42. (New) The apparatus of claim 40, wherein the controller is further configured to multicast, via the network interface, a packet to the plurality of RA partitions, the packet having a data access command and a logical block address (LBA) to which the data access command pertains.

43. (New) The apparatus of claim 42, wherein the controller is configured to multicast the packet by being configured to transmit the packet with a multicast Internet Protocol address.